



# UNITED STATES PATENT AND TRADEMARK OFFICE

UNITED STATES DEPARTMENT OF COMMERCE  
United States Patent and Trademark Office  
Address: COMMISSIONER FOR PATENTS  
P.O. Box 1450  
Alexandria, Virginia 22313-1450  
www.uspto.gov

APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/519,249	12/22/2004	Evgeny Mikhailovich Dianov	CU-4032 RJS	9706
26530	7590	04/04/2006	EXAMINER	
LADAS & PARRY LLP 224 SOUTH MICHIGAN AVENUE SUITE 1600 CHICAGO, IL 60604			BLEVINS, JERRY M	
			ART UNIT	PAPER NUMBER
			2883	

DATE MAILED: 04/04/2006

Please find below and/or attached an Office communication concerning this application or proceeding.

<b>Office Action Summary</b>	Application No. 10/519,249	Applicant(s) DIANOV ET AL.	
	Examiner Jerry Martin Blevins	Art Unit 2883	

**-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --**

**Period for Reply**

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

**Status**

- 1) ☒ Responsive to communication(s) filed on 06 January 2006.
- 2a) ☐ This action is **FINAL**.                      2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

**Disposition of Claims**

- 4) ☒ Claim(s) 1-10 and 12-16 is/are pending in the application.
- 4a) Of the above claim(s) \_\_\_\_\_ is/are withdrawn from consideration.
- 5) ☐ Claim(s) \_\_\_\_\_ is/are allowed.
- 6) ☒ Claim(s) 1-10 and 12-16 is/are rejected.
- 7) ☐ Claim(s) \_\_\_\_\_ is/are objected to.
- 8) ☐ Claim(s) \_\_\_\_\_ are subject to restriction and/or election requirement.

**Application Papers**

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☒ The drawing(s) filed on 14 December 2005 is/are: a) ☒ accepted or b) ☐ objected to by the Examiner.  
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).  
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

**Priority under 35 U.S.C. § 119**

- 12) ☒ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☒ All    b) ☐ Some \* c) ☐ None of:
1. ☒ Certified copies of the priority documents have been received.
2. ☐ Certified copies of the priority documents have been received in Application No. \_\_\_\_\_.
3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

\* See the attached detailed Office action for a list of the certified copies not received.

**Attachment(s)**

- |  |   |
|--|---|
| 1) <input checked="" type="checkbox"/> Notice of References Cited (PTO-892)  | 4) <input type="checkbox"/> Interview Summary (PTO-413)<br>Paper No(s)/Mail Date. _____ |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948)                                   | 5) <input type="checkbox"/> Notice of Informal Patent Application (PTO-152)             |
| 3) <input type="checkbox"/> Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08)<br>Paper No(s)/Mail Date _____ | 6) <input type="checkbox"/> Other: _____  |

## DETAILED ACTION

### *Drawings*

The drawings were received on December 14, 2005. These drawings are acceptable.

### *Claim Objections*

Claims 1-8 and 12-16 are objected to because of the following informalities:

Regarding claim 1, the word "diameter" should be deleted from line 4, as it is an incorrectly repeated word.

Also regarding claim 1, "said first section", found on line 4, has no proper antecedent basis, since the only prior recitation is to "said section". Examiner interprets "said first section" to refer to "said section". Examiner further interprets the subsequent indication of a "first section", found in line 6, to refer to a first subsection of "said section" and not to "said section" itself and that the subsequent indication of "a second section", found in line 8, to refer to a second subsection of "said section" and not to an entirely distinct section.

Claims 2-8 depend from claim 1.

Further regarding claim 5, the claim language " $L \geq 10 \cdot D$ ", found on line 4 and the claim language " $D < d \cdot \min(4D, 40 \mu\text{m})$ ", found on line 5, should be written more legibly, as in claims 8, 9, and 14.

Art Unit: 2883

Further regarding claim 7, the word "the" is omitted prior to the phrase "fiber line", found on line 2.

Claims 12-16 are misnumbered, as claim 11 is skipped. Therefore, claims 12-16 should be renumbered as claims 11-15.

Appropriate correction is required.

### ***Claim Rejections - 35 USC § 112***

The following is a quotation of the second paragraph of 35 U.S.C. 112:

The specification shall conclude with one or more claims particularly pointing out and distinctly claiming the subject matter which the applicant regards as his invention.

Claims 1-10 and 12-16 are rejected under 35 U.S.C. 112, second paragraph, as being indefinite for failing to particularly point out and distinctly claim the subject matter which applicant regards as the invention.

Regarding claims 1 and 9, the body of the claims, after the word "comprising", has not stated which structure performs the stated function of protecting a fiber line against destruction by laser radiation. For purposes of examination, examiner will conclude that any structure comprising the claimed elements will perform the stated function.

Claims 2-8 and 10, 12-16 depend from claims 1 and 9, respectively.

Further regarding claims 4 and 13, the phrase "for example" (or in this case "e.g.") renders the claim indefinite because it is unclear whether the limitation(s) following the phrase are part of the claimed invention. See MPEP § 2173.05(d). For

Art Unit: 2883

purposes of examination, examiner does not include the limitation(s) following the phrase as part of the claimed invention.

### ***Response to Arguments***

Applicant's arguments, see page 6, filed January 6, 2006, with respect to the objection to the abstract and the double patenting rejection of claims 3 and 7 have been fully considered and are persuasive. The objection to the abstract and the double patenting rejection of claims 3 and 7 have been withdrawn.

Applicant's arguments with respect to claims 1-7 have been considered but are moot in view of the new ground(s) of rejection.

The arguments are relevant as they regard to newly submitted claims 10 and 12-16, which are substantially identical to the original claims 1-7. However, applicant's arguments are not persuasive. In response to applicant's arguments that the applied prior art reference to Goldberg does not include certain features of applicant's invention, the limitations on which the applicant relies are not stated in the claims. It is claims that define the claimed invention, and it is the claims, not specifications that are anticipated or unpatentable. *Constant v. Advanced Micro-Devices Inc*, 7 USPQ 2d 1064. In response to applicant's arguments that the applied prior art reference to Sumitomo contains a misprint due to a discrepancy in the specification and the claims of the reference to Sumitomo, examiner asserts that claims 1 and 10 of Sumitomo are to the outer diameter of the fiber itself, i.e. to the outer diameter of the cladding, whereas the cited section of the specification of Sumitomo is to the mode field diameter of the fiber.

Art Unit: 2883

Therefore, Examiner contends that no misprint is found in the reference to Sumitomo.

Furthermore, the reference to Sumitomo is originally published in the English language, therefore Examiner is not relying on a foreign translation, which greatly reduces the likelihood of a misprint. Above all, Examiner contends that one cannot merely assume a misprint, and that even if applicants could prove the existence of a misprint, this would still not preclude the prior art teaching of Sumitomo of fibers with mode field diameters of about 8 micrometers.

### ***Claim Rejections - 35 USC § 102***

The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(e) the invention was described in (1) an application for patent, published under section 122(b), by another filed in the United States before the invention by the applicant for patent or (2) a patent granted on an application for patent by another filed in the United States before the invention by the applicant for patent, except that an international application filed under the treaty defined in section 351(a) shall have the effects for purposes of this subsection of an application filed in the United States only if the international application designated the United States and was published under Article 21(2) of such treaty in the English language.

Claims 1-4 and 7 are rejected under 35 U.S.C. 102(e) as being anticipated by US Patent to Goldberg et al., number 6,731,837.

Regarding claim 1, Goldberg teaches a device (Figure 9, 42) for protecting a fiber line (6) against destruction by laser radiation, comprising: a section of an optical fiber line (1') having first core diameter (10') throughout the length of the section, the section of the optical fiber line having : optical fiber cladding (2') over a first subsection of the fiber line that is of a second diameter greater than the first core diameter, and optical

Art Unit: 2883

fiber cladding (4') over a second subsection of the fiber line that is of a third diameter that is less than the second diameter but greater than the first core diameter, the second section being adjacent to the first section.

Regarding claim 2, Goldberg teaches that the optical fiber cladding is made of silica based glass (column 13, lines 3-26).

Regarding claims 3, 4, and 7, Goldberg teaches that the fiber section is formed directly in and included into the fiber line to be protected, by splicing or by optical connectors (Figures 9 and 10 and column 13, lines 3-26).

### ***Claim Rejections - 35 USC § 103***

The text of those sections of Title 35, U.S. Code not included in this action can be found in a prior Office action.

Claims 5, 6, 8-10, and 12-16 are rejected under 35 U.S.C. 103(a) as being unpatentable over Goldberg in view of Published European Patent Application to Sumitomo Electric Industries, number EP 0 851 247 A2, and in view of US Patent to Toyonaka et al, number 5,283,846.

Regarding claims 5 and 8, Goldberg teaches the limitations of the base claim 1. Goldberg does not teach that the cladding has at least at one part, a length greater than or equal to 10 times the mode field diameter of the optical fiber section, a cross-section parameter (cross-sectional diameter of the cladding) greater than the mode field diameter but less than or equal to the minimum of 4 times the mode field diameter and 40 micrometers. Sumitomo teaches an optical fiber with mode field diameter about 8

Art Unit: 2883

micrometers (column 2, lines 29 and 30) and a cladding diameter between 25 and 40 micrometers (abstract). Therefore, Sumitomo teaches a range of cladding diameter (25 to 32 micrometers) which is greater than the mode field diameter but less than or equal to 4 times the mode field diameter (which is less than 40 micrometers). It would have been obvious to one of ordinary skill in the art at the time of the invention to add to Goldberg the teaching of Sumitomo. Although the range of Sumitomo overlaps the indicated range of the claim, it has been held that where the general conditions of a claim are disclosed in the prior art, discovering the optimum or working ranges involves only routine skill in the art. In re Aller, 105 USPQ 233. The motivation would have been to improve fiber protection by defocusing the radiation in the fiber. Toyonaka teaches an optical fiber with constant core diameter and cladding, where the fiber length is 50 cm and the mode field diameter is 8 micrometers. Therefore, Toyonaka teaches the indicated length range of the claim. It would have been obvious to one of ordinary skill in the art at the time of the invention to add to Goldberg the teaching of Toyonaka. The motivation would have been to improve fiber protection by defocusing the radiation in the fiber (Goldberg, column 5, lines 48-58). Although Goldberg teaches a fiber diameter, which would suggest that the fiber is cylindrical, Goldberg does not explicitly teach that the optical fiber section is cylindrical. Sumitomo teaches a cylindrical fiber section (Figure 1). It would have been obvious to one of ordinary skill in the art at the time of the invention to add to Goldberg the teaching of Sumitomo. The motivation would have been to improve coupling to a cylindrical fiber being protected.



Regarding claim 6, Goldberg in view of Sumitomo and Toyonaka teaches the limitations of the base claim 5. Goldberg also teaches that the fiber section is formed directly in and included into the fiber line to be protected, by splicing or by optical connectors (Figures 9 and 10 and column 13, lines 3-26).

Regarding claim 9, Goldberg teaches a device (Figure 9, 42) for protecting a fiber line (6) against destruction by laser radiation, comprising: a section of an optical fiber line (1') having first core diameter (10') throughout the length of the section, and a cladding of the optical fiber section (2', 4'). Goldberg does not teach that the cladding has at least at one part, a length greater than or equal to 10 times the mode field diameter of the optical fiber section, a cross-section parameter (cross-sectional diameter of the cladding) greater than the mode field diameter but less than or equal to the minimum of 4 times the mode field diameter and 40 micrometers. Sumitomo teaches an optical fiber with mode field diameter about 8 micrometers (column 2, lines 29 and 30) and a cladding diameter between 25 and 40 micrometers (abstract). Therefore, Sumitomo teaches a range of cladding diameter (25 to 32 micrometers) which is greater than the mode field diameter but less than or equal to 4 times the mode field diameter (which is less than 40 micrometers). It would have been obvious to one of ordinary skill in the art at the time of the invention to add to Goldberg the teaching of Sumitomo. Although the range of Sumitomo overlaps the indicated range of the claim, it has been held that where the general conditions of a claim are disclosed in the prior art, discovering the optimum or working ranges involves only routine skill in the art. In re Aller, 105 USPQ 233. The motivation would have been to improve fiber protection by

defocusing the radiation in the fiber. Toyonaka teaches an optical fiber with constant core diameter and cladding, where the fiber length is 50 cm and the mode field diameter is 8 micrometers. Therefore, Toyonaka teaches the indicated length range of the claim. It would have been obvious to one of ordinary skill in the art at the time of the invention to add to Goldberg the teaching of Toyonaka. The motivation would have been to improve fiber protection by defocusing the radiation in the fiber (Goldberg, column 5, lines 48-58).

Regarding claim 10, Goldberg in view of Sumitomo and Toyonaka teaches the limitations of the base claim 9. Goldberg also teaches that the optical fiber cladding is made of silica based glass (column 13, lines 3-26).

Regarding claims 12, 13, and 16, Goldberg in view of Sumitomo and Toyonaka teaches the limitations of the base claim 9. Goldberg also teaches that the fiber section is formed directly in and included into the fiber line to be protected, by splicing or by optical connectors (Figures 9 and 10 and column 13, lines 3-26).

Regarding claim 14, Goldberg in view of Sumitomo and Toyonaka teaches the limitations of the base claim 9. Goldberg does not teach that the cladding has at least at one part, a length greater than or equal to 10 times the mode field diameter of the optical fiber section, a cross-section parameter (cross-sectional diameter of the cladding) greater than the mode field diameter but less than or equal to the minimum of 4 times the mode field diameter and 40 micrometers. Sumitomo teaches an optical fiber with mode field diameter about 8 micrometers (column 2, lines 29 and 30) and a cladding diameter between 25 and 40 micrometers (abstract). Therefore, Sumitomo

Art Unit: 2883

teaches a range of cladding diameter (25 to 32 micrometers) which is greater than the mode field diameter but less than or equal to 4 times the mode field diameter (which is less than 40 micrometers). It would have been obvious to one of ordinary skill in the art at the time of the invention to add to Goldberg the teaching of Sumitomo. Although the range of Sumitomo overlaps the indicated range of the claim, it has been held that where the general conditions of a claim are disclosed in the prior art, discovering the optimum or working ranges involves only routine skill in the art. In re Aller, 105 USPQ 233. The motivation would have been to improve fiber protection by defocusing the radiation in the fiber. Toyonaka teaches an optical fiber with constant core diameter and cladding, where the fiber length is 50 cm and the mode field diameter is 8 micrometers. Therefore, Toyonaka teaches the indicated length range of the claim. It would have been obvious to one of ordinary skill in the art at the time of the invention to add to Goldberg the teaching of Toyonaka. The motivation would have been to improve fiber protection by defocusing the radiation in the fiber (Goldberg, column 5, lines 48-58). Although Goldberg teaches a fiber diameter, which would suggest that the fiber is cylindrical, Goldberg does not explicitly teach that the optical fiber section is cylindrical. Sumitomo teaches a cylindrical fiber section (Figure 1). It would have been obvious to one of ordinary skill in the art at the time of the invention to add to Goldberg the teaching of Sumitomo. The motivation would have been to improve coupling to a cylindrical fiber being protected.

Art Unit: 2883

Regarding claim 15, Goldberg in view of Sumitomo and Toyonaka teaches the limitations of the base claim 14. Goldberg also teaches that the fiber section is formed directly in the fiber line to be protected (Figures 9 and 10 and column 13, lines 3-26).

### **Conclusion**


Applicant's amendment did not necessitate the new ground(s) of rejection presented in this Office action. Accordingly, **THIS ACTION IS NON-FINAL**. See MPEP § 706.07(a).

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Jerry Martin Blevins whose telephone number is 571-272-8581. The examiner can normally be reached on Monday through Friday.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Frank G. Font can be reached on 571-272-2415. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).

JMB

  
**BRIAN HEALY**  
**PRIMARY EXAMINER**  
**ART UNIT 251-2883**